

After the Tipping Point – What Next?

The ‘tipping point’ is a phrase used in the open access debate, but I am not sure what happens at the tipping point and it would be extremely interesting to know what happens beyond the tipping point. What is it that tips when the tipping point is reached?

Consider this comment from John Cox in the January 2004 edition of the *Charleston Adviser*

One thing I do know is that a number of major commercial publishers are involved in contingency planning if Open Access reaches the 'tipping point' at which the whole industry switches business models. Open access will not lead to the demise of the large commercial publishers.....

Cox's comment suggests that when the tipping point is reached there will be a decisive industry-wide switch to this new business model for publishing journals. This seems to be a reasonable prediction. It would not be correct if there is a long-term prospect of ‘paid for access’ and open access primary research journals co-existing -- perhaps in much the same way as ‘primary research periodicals’ and ‘conference proceedings’ have co-existed in the market for the last fifty years. Few publishers expect this to be the outcome. In fact, it seems quite likely that although the ‘tipping point’ will be caused by a steady migration of important research papers in the direction of open access journals, the decisive moment will be marked and accelerated when one or two big publishers endorse and adopt the open access business model. In which case the tipping point is decisively reached when publishers decide that the open access method is appropriate and needs their attention. Scientific publishers respond to the needs of science and at some point the publishers, not the contributors/authors, will do the decisive tipping.

There are some reasons to expect the publishers' moves to be decisive:

First, if the open access business model looks as though it could become prevalent there will be advantages in being in the field early. BMC and PLoS are first, but if a major STM publisher makes the switch they will also have an advantage of momentum and established reputation in attracting papers and soliciting institutional support. If or when that happens we will well and truly have reached the tipping point, another publisher will follow etc.

Second, if open access becomes the dominant mode for primary research publishing and commercial publishers/aggregators are at all involved, there will be considerable economies of scale for any players with the right infrastructure and the ability to attract a lot of throughput. The figures that are currently quoted on the cost of ‘editing and reviewing’ papers seem to be based too much on the existing practice. Once industrial-strength web software has been developed for editorial tasks and management of the peer review process it is quite possible that the cost of processing papers can be pushed below \$100 per paper. An order of magnitude saving in the production and editorial process is

not unlikely when one considers the effect that web services have had on eg consumer banking or travel agency. In picturing a properly web-based system for producing, refereeing and polishing web-based scientific papers one should really be thinking of the systems used by eBay, Slashdot, Blogger and Google. The process will be completely web-based, 24X7, embedded in the scientific community and not an office-bound activity. Most of the creative thinking and informed criticism will be coming from unpaid academic experts. Perhaps this infrastructure can all be done by open source software for open access content deployment. But we may doubt it, effective reviewing and refereeing requires a strong 'management' function and will need a systematic approach if automation is to succeed: so it is quite likely that a commercial company will succeed in that market. There must be a good chance that the move to open access publishing in fact accelerates the tendency towards consolidation in the STM field, it is unlikely that the market is sufficiently varied that it will support many conflicting Web Services for managing and developing periodical content; but the system that results will be more efficient, because essentially automated and the potential for super-profits is not there if the system is open access or free to the enduser.

After the tipping point what then happens to commercial scientific publishers and the non-publishing activities subsidized by the societies with profitable journal lists?

The gloomy answer is that all the other parts of scientific publishing suffer. Without the big profits of their journals lists commercial scientific publishing will wither and the learned societies have to pull in their horns. This seems to be the thinking behind the [Washington D.C. Principles For Free Access to Science](#) where 48 'not for profit' publishers and learned societies announce their partial commitment to open access, but with a lot of attention to the risks of throwing out baby with the bathwater. But this may be too quick a jump to the wrong conclusion. There is an optimistic case to be considered.

Open access publishing may prove to be very efficient (though not necessarily highly profitable) and this will encourage the publication of yet more papers. Furthermore the pace of scientific discovery means that lots more research is and will be available to be published in the developing and the developed world. If the new web-based refereeing and publishing methods are significantly more efficient the supply of research meriting publication will surely rise to the new capacity. If there is a lot more stuff available and the open access regime means that whatever is available is more available (more cited, more searched, more scanned, though possibly less read), there will then be a corresponding overload of primary research publishing and even more need for remedial action from secondary and tertiary publishers. There will surely be a new range of opportunities for secondary and tertiary publishers. Cox is right, if open access becomes the predominant mode of research publishing, the large commercial publishers will not vacate the STM field, though they may redirect the focus of their publishing programmes. Here are four major areas of opportunity:

1. There will be plenty of scope for review publications, for survey and background periodicals, for magazines like the Elsevier Trends series. Such magazines and periodicals will never be commissioned, written or published to be given away free. But there will be a good market for them if they can be produced cost-effectively.
2. There will be a continuing need for major works of reference which provide synthetic coverage or authoritative digests of specific fields. With a few honourable exceptions (The American Chemical Society and the Royal Society of Chemistry spring to mind) few learned societies have a strong tradition of reference book publishing. Perhaps this should change.
3. There will be many specialist databases which add value to the primary research databases which will remain in the public domain, this will be an attractive field for entrepreneurial scientific publishers to enter.
4. Educational materials and teaching resources are already under the influence of the open access approach, which is surely to be encouraged. However, it is unlikely that most of the very best textbooks and teaching resources will be produced on an open access basis. Major investments need to be made in the best course materials and textbooks, and if authors and publishers see profit in producing them they will continue to try to produce the best possible resources for profit. The increasingly market-oriented climate in educational institutions will not deter them.

The case is not proven. The timing and existence of the tipping point is still moot. Publishers will not enjoy or acquiesce in losing their most profitable cash cow journals; but there are reasons for thinking that an open access world for primary research will still leave plenty of scope for profit-seeking and innovative scientific publishing.

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xrefer is a leading reference aggregator – serving e-libraries throughout the world with its web based service xreferplus

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